

**Notice of Allowability**

Application No.

10/706,815

Examiner

Eleni A. Shiferaw

Applicant(s)

VIG ET AL.

Art Unit

2136

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment after non-final lined 5/3/2005.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ The drawings filed on 5/3/2005 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
AYAZ SHEIKH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

*Allowable Subject Matter*

The following is a statement of reasons for the indication of allowable:

Claims 1-11 are allowed.

Claims 1, and 5: Prior art of record neither alone nor in combination teach generating/producing calibrated optical pulses in a quantum key distribution (QKD) system to determine the a first average power needed for third optical pulses outputted by a optical radiation source in order to obtain a second average power for each third optical pulse at a receiver of quantum key distribution (QKD) system, determine a calibrated attenuation setting of the VOA that results in each third optical pulse having the first average power, automatically setting the VOA to the calibrated attenuation setting and sending the third optical pulses through the VOA to create calibrated optical pulses by sending first and second optical pulses through a variable optical attenuator for different settings, the first optical pulses having a fixed pulse width and a fixed power and the second optical pulse having varying pulse widths, setting the variable optical attenuator to a maximum attenuation, directing second optical pulses having varying pulse widths through the variable optical attenuator and relating respective transmitted powers of the second optical pulses to the respective varying pulses widths.


Claim 7: Prior art of record neither alone nor in combination teach a method of QKD using a VOA to set the VOA to provide calibrated pulses having a select average power at a receiver based on third optical pulses output from an optical radiation source and having a select average power by relating transmitted powers of first and second optical pulses passed through the VOA, the first optical pulses respective to VOA setting and the second optical pulses having

varying pulse widths and passed through the VOA set at a fixed attenuation to respective varying pulse widths.

Claims 8 and 10: Prior art of record neither alone nor in combination teach one-way or two-way calibrated QKD system to automatically set to a select value by the controller using a calibration table and an average power expected at a receiver in the second station in order to produce calibrated optical pulses from the optical pulses outputted by the optical radiation source.

Claims 2-4, 6, 9, and 11 are allowed because of dependency.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

  
AYAZ SHEIKH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100